DOCUMENT RESUME

ED 330 766 UD 028 004

AUTHOR Mindenbergs, Susan; And Others
TITLE Horizon Program Review. Report No. 89-1.
INSTITUTION Seattle Public Schools, Wash.
PUB DATE Feb 89
NOTE 53p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Academically Gifted; *Achievement Gains; *Curriculum Development; Elementary Education; *Enrichment Activities; Program Evaluation; Questionnaires; Special Education; *Special Programs; Urban Schools
IDENTIFIERS *Seattle Public Schools WA

ABSTRACT

This evaluation of the 1987 Horizon Program, a program for gifted and talented elementary school students in Seattle (Washington), found that the program had little cohesive form or substance. Horizon was developed in 1977 as a magnet program to encourage desegregation. It was intended to provide a comprehensive differentiated program to encourage creative thinking skills and higher cognitive concepts, promote leadership and intellectual skills, and provide opportunities for affective growth. Participants were identified on the basis of achievement test scores. Evaluation information was drawn from a teacher survey, a grade-by-grade analysis of longitudinal trends in student gains on achievement tests, and a comparison of the achievement gains of participants with those of regular students. The following findings are discussed: (1) the program's curriculum is the same as the regular curriculum; (2) enrichment methods and materials differ from class to class; (3) participants score higher on achievement tests than regular students; and (4) participants showed significantly greater gains in reading and mathematics achievement than regular students. An in-depth study of the program might identify methods and materials that could be used in the regular program. Statistical data presented in one table and 12 graphs, the teacher survey questionnaire, and teacher comments on the preliminary draft of the evaluation report are appended. (FMW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

SEATTLE PUBLIC SCHOOLS
815 Fourth Avenue North
Seattle, Washington 98109

ED330766

HORIZON PROGRAM REVIEW

REPORT NO. 89-1
FEBRUARY, 1989

SUSAN MINDENBERGS
DONNA PEHA
MADELAINE RAMEY
JIM JAMES

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
D. L. Calwell
Seattle Public Schools
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

SEATTLE PUBLIC SCHOOLS
William M. Kendrick, Superintendent

EVALUATION, EQUITY & COMPLIANCE
Collin Williams, Executive Director

TESTING & EVALUATION OFFICE
Susan Mindenbergs, Manager

UD 028 004

HORIZON PROGRAM REVIEW

TABLE OF CONTENTS

	Page No.
EXECUTIVE SUMMARY	1
I. INTRODUCTION	3
- Program Goals	3
- Student Characteris[illegible]	4
II. METHODOLOGY	4
III. RESULTS	5
- Survey Results	5
- Norm-referenced Test Analyses	9
- Horizon/Nonprogram Student Comparison	11
IV. DISCUSSION	11
V. REFERENCE	13
APPENDIX 1	15
- 1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS GRAPHS BY GRADE LEVEL	17-39
APPENDIX 2	41
- TABLE 1 - PERCENTILE SCORES AND OUTCOMES OF STATISTICAL TESTS FOR COMPARING 1987-88 CAT GAINS OF HORIZON AND NONPROGRAM STUDENTS	43
APPENDIX 3	45
- HORIZON TEACHER SURVEY	47-52
APPENDIX 4	53
- PRELIMINARY REPORT COMMENTS	55

HORIZON PROGRAM REVIEW

EXECUTIVE SUMMARY

The Horizon program was initially designed to be a magnet to complement the desegregation effort in Seattle. From inception, it was intended to provide a comprehensive differentiated program for identified gifted and talented students to encourage creative thinking skills and higher cognitive concepts, promote leadership and intellectual skills, and provide opportunities for growth in affective areas. These general goals appear intact today.

The current Horizon program is an accumulation of students who were selected to be tested and admitted as a result of their high performance on the CAT. The program itself seems to have little cohesive form or substance. The curriculum is the same as for the regular program, but the enrichment methods and materials differ from class to class. The one thread of consistency is that Horizon students score higher than regular program students on the CAT. A more interesting phenomenon is that they are showing significantly greater gains than regular program students at most grade levels in reading and math. An in-depth study of the program might result in the identification of some insightful methods and materials that could be used in the regular program.

The purpose of this review is to provide information on program implementation and student outcomes. The program has been in existence since 1977, and although a series of descriptive reports have been prepared on the program, no evaluation has been conducted.

I. INTRODUCTION

The Horizon program was developed in 1977 as a magnet program for desegregation. It was intended to provide a comprehensive differentiated program for identified gifted and talented students to encourage creative thinking skills and higher cognitive concepts, promote leadership and intellectual skills, and provide opportunities for growth in affective areas.

A description of the Horizon program can be found in the 1981-82 Emergency School Aid Act, Title VI, Basic Grant Funding Application, dated December 5, 1980. The grant application describes the program as being designed to meet the needs of gifted students by providing challenging course content taught by specially trained staff, using special materials and equipment. The application went on to note that the curriculum emphasizes higher order thought processes and concepts. The differentiated curriculum is described as containing abstract concepts in a content area, with a higher degree of complexity than found in the regular curriculum.

To participate in the Horizon program, students must first meet eligibility criteria. The selection process begins when students have been nominated as candidates (by staff or parents) and parental consent has been obtained. Each year the District nominates 1/4 to 1/3 of the candidates on the basis of their previous spring achievement test results. The remainder of candidates are nominated predominantly by their parents. Once parental consent has been obtained, students take additional tests, as necessary, and a creativity survey is completed by both a parent and a teacher. Required tests measure academic achievement and cognitive ability. At grades K and 1, academic achievement is measured using the Woodcock Johnson Achievement Tests which are individually administered by an assessment specialist. For grades 2-8, achievement results are obtained from the student's performance on the previous spring's achievement test (the California Achievement Test). At all grades, some variant of the group-administered Cognitive Ability Test is used to measure general intellectual ability. Finally, information about test performance, creativity, and student background characteristics is considered by a committee which determines eligibility. Actual participation in the program is then dependent on the parent's written decision to elect the Horizon option.

Classrooms are designated to serve the gifted at specific sites. Horizon classrooms may be self-contained, team taught, or offered as a shared teaching experience.

Program Goals

The August, 1984 Horizon Curriculum Guide (Working Draft) identifies the goals of the program as follows:

-- To serve students who excel academically and/or who demonstrate intellectual ability or potential.

-- To provide equity of education for academically and intellectually gifted students of all cultural, ethnic, and socioeconomic groups.

-- To insure that instruction in and demonstration of mastery of the core curriculum is provided for each gifted student.

-- To use instructional strategies that elicit higher level thinking skills, independent learning and problem-solving techniques.

-- To provide appropriate extended and supplemental learning activities and instructional materials.

-- To provide opportunities for gifted students to be integrated with students in regular programs including at least one academic subject.

-- To provide staff specifically trained to work with gifted students.

-- To encourage parent and community participation in the education of gifted students.

Student Characteristics

Demographic information on students enrolled in the Horizon program was taken from the student data files as of fall, 1987.

-- There were 2,246 students enrolled in Horizon classes in the fall of 1987.

-- Fifty-one percent of the Horizon students were females; the District percentage was 48.9%

-- All minority groups are under represented relative to the District percentage of students in those groups. Native American students comprised 2.3%; the District percentage was 2.9%. Latino students comprised 4.2%; the District percentage was 5.1%. Asian students comprised 18.7%; the District percentage was 20.4%. Finally, Black students comprised 17.5% of students enrolled in Horizon classes; the District percentage for Black students was 25.0%.

-- White students were over represented at 57.3%. The District percentage of White students was 46.6%.

-- There were more (73.9%) students living with both parents in Horizon as compared to the total District (54.5%).

-- There were fewer (14.9%) students receiving free or reduced price lunch as compared to the total District (35.9%).

The following sections describe the methodology used in the development of this program review, the results of a survey administered to Horizon teachers, an analysis of Horizon student norm-referenced test results, and a discussion of the previous sections.

II. METHODOLOGY

This evaluation employs three methods of analysis. The first is compilation of individual Horizon teacher information collected in a survey of all Horizon teachers. The second is a grade by grade examination of longitudinal trends of

California Achievement Test (CAT) score gains of students enrolled in Horizon classes. Students are graphed separately according to their membership in one of the five major ethnic classifications: Asian, Black, Latino, Native American, and White. The third analysis compares CAT score gains of Horizon students with those of students not in the program. The intent is to see if achievement test score gains are greater for Horizon students than for non-program students.

After the preliminary report was written, several Horizon teachers agreed to review and comment on the draft. Their general comments are incorporated into appropriate sections of this report. Their specific comments are found in Appendix 4.

The purpose of the review is to provide information on how the program is being conducted and what the student outcomes are. The program has been in existence since 1977, and although a series of descriptive reports have been prepared on the program, no comprehensive evaluation has been conducted.

III. RESULTS

Survey Results

Survey forms were sent to 147 Horizon teachers in the District. A copy of the form may be found in Appendix 3. Fifty-two percent (77) of the teachers returned completed surveys.

Most of the respondents were elementary and middle school teachers (33 and 35, respectively). Only a few (9) high school teachers responded.

When asked to give their opinion on the statement, "I find the Horizon Curriculum Guide useful in determining ways to meet the special needs of gifted students.", only one-fourth (20) of the respondents agreed. The most frequent comment from elementary, middle school, and high school teachers was either, "I have never seen this guide", or "I never knew there was one!" A middle school teacher was aware of the guide, but said it was not being used. One elementary teacher indicated that he/she had helped develop the guide. One other elementary teacher found the guide useful.

Opinions were evenly split (34 each) on whether teachers had adequate materials and equipment. Of the five elementary teachers who commented, as well as indicated agreement or disagreement with the statement, "I have adequate materials and equipment to teach as I want to teach.", four wrote that they purchased materials with their own money...$1250.00 in one case.

No middle school or high school teachers made comments on this item.

Most respondents strongly agreed (39) or generally agreed (22) that they were well trained for teaching gifted classes. Comments by a middle school and a high school teacher in relation to the statement, "I feel I am well trained for teaching a gifted class/classes." were "...useful in-service might help." and "I'd like to see what others are doing. I'm meeting the challenge more and more each year."

The majority of respondents (54) indicated their teaching strategy is different in the Horizon class than it would be with a regular class.

The respondents who indicated that their strategies were different included comments referring to their use of higher level thinking skills, instruction geared to above grade level and/or more difficult material, the inclusion of more project-oriented activities and group work, less-structured activities, and their expectation that Horizon students require less discipline imposed by the teacher and are "more in control". In addition, some Horizon class teachers felt that they were able to present and expect more in-depth work, that their students took more responsibility for their own learning and required less teacher-directed time, and that Horizon students were more productive than regular students. A middle school teacher commented: "I operate on the assumption that Horizon students have significantly higher language skills and, therefore, can handle more sophisticated reading and writing tasks."

Another middle school teacher who felt that different teaching strategies were required wrote: "There is more opportunity in Horizon to experiment and fail. ...more inclination to 'guarantee' success in regular class...more structured."

The following were mentioned as some examples of activities that occur in Horizon classes that would not occur in a regular class.

- independent individual research projects
- group research projects
- introduction of algebra at elementary grades
- extended cross-curriculum units
- logic, syllogistic reasoning in grades 9-12
- oral history projects
- use of more difficult texts
- Logo in the elementary grades
- use of literature in elementary grades
- in-depth work in areas of interest in social studies
- use of above-grade-level texts
- math enrichment
- more extensive use of field trips
- discussion of advanced science concepts
- use of subjective evaluation methods
- various creative activities
- one-hour-per-day homework assignments
- class musical
- more parental involvement
- vocabulary expansion
- cooperative learning
- problem solving
- computer instruction

In response to that same question, some respondents felt that their strategies and expectations were not different. Reasons for the belief that strategies should be the same include the feeling that all children should be exposed to a variety of learning activities, that all profit from exposure to higher level thinking skills, and that all students should be taught problem-solving strategies. An elementary teacher commented, "If one's goal is to have kids stretch for the stars, why would strategies be any different?"

In response to the question whether teachers thought they needed additional training to promote student growth, 45% of the reponses were "yes" and 55% "no". In comments accompanying the question, elementary and middle school teachers

wrote that they were interested in and enjoyed receiving additional training, up-dates on research, receiving exposure to new ideas, and finding out what other teachers were doing. One teacher mentioned that while feeling basically well trained,"...given the time and money, I would like to enrich all these areas." Another wrote, "I don't think any of us knows all the answers. We need to keep current on what is going on in our country in gifted education."

Eight respondents indicated they had students tested and qualified for Chapter 1 reading services. Eleven respondents had students tested and qualified for Chapter 1 math services. The question "How many students in your class this year were tested and qualified for Chapter I services?" elicited these statements from elementary teachers:

- "Two to three students were borderline in each math and reading, but I decided not to have them tested."

- "Four were tested, one qualified. Two out of the remaining three received weekly tutoring with a volunteer. The parents of the child receiving Chapter 1 services, also got the student tutoring outside of school in math and language arts."

A middle school teacher wrote, "Fifteen out of thirty-five were tested and qualified for Chapter 1." Another indicated he/she "didn't know," (if students in his/her classroom qualified for reading or math Chapter 1 services). No high school teacher commented on this question.

The next question dealt with the "deselection" process for Horizon students. Deselection means that process for removing students from the Horizon program. Most respondents (44) were not familiar with the Horizon student deselection process. Of those (28) who were familiar with it, only seven were satisfied with the process. With regard to the questions concerning familiarity and satisfaction with the Horizon deselection process, elementary and middle school teachers responded with comments that ranged from "What process?", "Is there one?", and "Can we?" to general concerns about the general effectiveness of the process. Remarks were made that indicated that some teachers had tried to deselect students, but were unable to secure the necessary parent permission. "It only works when the parents agree" was mentioned. One teacher seemed to feel that there was an old process and a new process and asked, "Which one?" Another wrote "...the one which keeps changing?" Additional comments indicated that those teachers who were aware of deselection found the procedures cumbersome, involved too much red-tape, were inconsistent, needed fine-tuning, and that a copy of the deselection process should be made available to all the teachers. One teacher indicated that his/her elementary school has their own deselection process.

A middle school teacher wrote, "I don't know of many people who have even heard of the deselection process...(T)he "secret" is well kept." No high school teacher responded with a comment on this question.

The last section of questions attempted to identify teachers' attitude about possible measureable objectives for the program. Five objectives were listed for teacher reaction. When asked to give their opinions concerning the possible objectives of the Horizon program, 48% of the respondents agreed that CAT reading and math gains for the Horizon students would be significantly greater than the gains for the rest of the students in the District. Another 30% had no

clear feeling regarding gains. Of the remainder, a few suggested that Horizon students would not be able to show gains because they were so high already.

There was considerable agreement (68%) that Horizon students would score in the high band of the higher level thinking skills, as measured by selected CAT items. Sixty-two percent of the teachers agreed that elementary Horizon students would master Student Learning Objectives in significantly greater numbers than the rest of the students in the District. Most respondents (67%) agreed that supplementary curriculum materials are above grade level by a minimum of one year. Finally, over one-half of the teachers (51%) agreed that Horizon students would be satisfied with their basic skill attainment as a result of their involvement with the program.

Attainment of only the first potential objective was analyzed in this review. As Table 1 on page 43 shows, students in the Horizon program had significantly higher gains in reading at three grade levels out of seven and at five grade levels out of seven for math. An informative follow-up study would be an analysis of objectives B through E listed in question #15 of the survey of the Horizon teachers. (See Appendix 3 for the survey form.)

General Comments

One-third of the respondents made additional statements about the Horizon program. Their concerns fell into the following areas:

Horizon student population

- "Only one of my students is 'gifted' - most others are above average."
- "At present my program does not contain "gifted" students. The intellectual, academic, leadership, and creative level of the students has fallen over the years. We now serve average and below-average students. Some need and receive tutoring and Chapter 1 services."
- "There are five regular class students in my class this year."
- "I am concerned about the lack of minority representation."
- "Horizon classes include too many non-Horizon students who are placed there just to fill them up."
- "...at my grade level (3rd), each year approximately 20% of the students I receive should be considered seriously for placement in a regular class."

Teacher expectation, teaching strategies, pupil behavior and motivation

- "Horizon teachers have higher expectations for their students."
- "Horizon teachers are expected to use strategies that enhance the education experience more frequently than regular class teachers are so Horizon students are better prepared for middle school and high school."

- "I accelerate my class academically and work clear through 4th grade texts. Although we use cooperative learning, we don't do many of the project activities, which extend horizontally, which has been used in many Horizon classes."

- "The emphasis in my class is on developing the thinking process. Many Horizon students come into this grade level (2nd) without experience in this area."

- "One class I teach contains a mixture of Horizon regular and Special Education students. There are no differences in my teaching strategies or with the students' learning or social behaviors."

- "Parents seem to want their children in the Horizon program, but often resent high academic and behavior standards I set."

- "Horizon students seem to possess speech pattern and communication skills which are already quite highly developed, so I don't usually need to spend as much concentrated effort in these areas as I might otherwise do with regular students."

- "All teachers should be required to enrich students' education."

- "Adequate texts are needed and other materials are vital."

- "I am against the Horizon program. It creates a "private" school at the expense of the public. By taking Horizon students out of the regular class, the (regular) classes lose their spark. Membership is given to any child placed in the program. Failing students are not removed. I do not recommend that this program be continued. I.P.P. - yes. Horizon - no."

- "Horizon should be a pull-out with specialists; non-Horizon students could be included for enrichment."

Several teachers indicated that they were pleased to be asked for their input about the program, although there was concern that the questionnaire was sent at an inconvenient time. Most who commented felt that they would prefer to respond at some time other than the end of the school year.

Norm-referenced Test Analyses

Horizon student California Achievement Test (CAT) score data were analyzed in two separate ways. The first examination looked at three-year longitudinal data for Horizon students. This study was to identify the patterns of achievement test score gains for Horizon students of different ethnic groups. The second examination compared CAT score gains of Horizon students with those of students not in the program. The intent was to see if achievement test score gains were greater for Horizon students than for nonprogram students.

Longitudinal Trends

Graphs 1-12 on pages 17 to 39, show true longitudinal trends. That is, they show the performance of the same, intact group of students at the end of three successive school years. There are two graphs for each grade, three through eight, one for Total Reading and one for Total Mathematics. Because the graphs

have some unusual features, they are described in some detail in points one through four below:

1. Horizon students in each grade are graphed separately according to their membership in one of the five major ethnic classifications: Asian, Black, Latino, Native American, and White. The graph lines representing these groups are single-width and individually labeled. For comparison, a composite District trend line for the grade is included. This line is double-width and unlabeled. Ethnic groups with fewer than five (5) students are not included.

   Because Horizon students tend to have higher scores than other students, some groups had scores that put them above the limits of the graph scales. When this occurred, the trend line was allowed to continue beyond the scale limit, and the actual percentile was noted on the graph.

2. The adoption of a new CAT for 1988 necessitates the use of two scales in order to look at achievement trends that include previous years. The scale on the left side of the graph is based on percentile norms from the 1977 version of the CAT, and the scale on the right side of the graph is based on percentile norms from the 1985 version.

   McGraw-Hill, the publisher of the CAT has conducted an "equivalency study" which provides **approximations** of the relationship between the 1977 norms and the 1985 norms. From this information, by knowing what students scored in Spring, 1988, it is possible to estimate what they would have scored on the earlier version of the test (and vice versa).

   The two scales on the graph have been set up on the basis of this equivalency information so that a study of achievement trends can be continued. Since the equivalence between the two sets of norms is different at each grade level, the scale at the right (1985 norms) will be different for each grade level.

   With the 1988 test adoption, it was decided to begin using a shorter, "survey" version of the CAT for grades 9-11. The equivalency study is applicable to this shortened test. However, caution should be taken in making conclusions based on these data because two separate estimates are applied. The first estimate is the equivalency between 1988 CAT scores and scores that were based on an older version of the CAT. The second estimate is between a standard-length form of the CAT and the survey form that was administered in the spring of 1988.

3. To be included in the graph, students must have complete reading and mathematics test scores for **each** of the three test points (Spring 1986, 1987, 1988). An artifact of this constraint is that students moving in or out of the District during the period studied are excluded from the trends. While this partial elimination of mobile students is likely to result in somewhat inflated District medians, it also increases the likelihood that trends reflect what is happening in the educational programs in Seattle.

4. The following students are not included on the graphs:

   a. students designated as receiving special service due to limited English speaking ability;

b. students designated as receiving special education services for the handicapped;

c. students designated as enrolled in the Individual Progress Program (IPP).

Horizon/Nonprogram Student Comparison

A statistical test was performed to see if Horizon students, on the average, had higher achievement test score gains from 1987 to 1988 than did students not in the Horizon program. For several reasons, the primary one being that Horizon students choose the program rather than being assigned to it, the method used for determining whether Horizon students showed greater gains than the comparison group was analysis of covariance with reliability correction. (See Kenny, 1975, for the rationale.) The comparison group consisted of all District students excluding those in Horizon (and those listed under point four, page 10, of the preceding section). Separate analyses were done for each grade and for each of the two subtests, Total Reading and Total Mathematics. The metric used was the Normal Curve Equivalent (NCE) score.

Table 1 (page 43) shows the results of this analysis. The "Significant" column in Table 1 shows whether the statistical test indicated that CAT gains were significantly greater for Horizon than for nonprogram students. If the statistical test did so indicate, a "Yes" was entered; if the statistical test indicated otherwise, no entry was made in the column. The two percentile columns for each of the two subtests, Reading and Math, were included to give the reader an idea of the absolute levels of performance as well as the magnitude of the gains of the two student groups.* The values in the "Spring 1988 Percentile" columns are approximate; they were obtained using results of the CAT publisher's equivalency study referred to in point two of the preceding section.

The analyses showed that **Horizon students in grades 2, 3, and 5 made significantly greater 1987 to 1988 gains than nonprogram students in both reading and math; Horizon students in grades 6 and 7 made significantly greater 1987 to 1988 gains than nonprogram students in math only; and 1987 to 1988 gains of Horizon students in grades 4 and 8 were not significantly greater than those for nonprogram students in either reading or math.**

IV. DISCUSSION

Over the years, a number of descriptions and several sets of objectives have been formulated for the Horizon program. The general thrust of this information suggests that a major goal of the program is to broaden the students' skills in curricular areas for their designated grade level. That is, the written material on the program does not mention or suggest acceleration into higher grade level material. Therefore, it appears as though the curriculum for the Horizon program is the same as used in the regular program. To augment the curricular materials, teachers seem to be using a variety of materials, much of which is supplied by them.

---

* The metric on which the statistical test was performed was not a percentile but an adjusted NCE score; i.e., observed 1988 NCE score minus weighted 1987 NCE score, where the weights are coefficients of regression of 1988 score on 1987 score divided by pretest (1987 test) reliability coefficient.

At least two drafts of a curriculum guide were written for the Horizon program. These guides delineated methods for broadening the students' skills. However, according to the survey results, the use of the guide(s) is limited. Several respondents were unaware of the guide(s). Even without specific instructions, generally, most teachers responded that their teaching methods were different for Horizon program students than they would be for regular program students. A clear thread running through the different strategy comments was exposure of Horizon program students to higher-level thinking skills. Beyond the goal of broadening student skills and exposing students to higher-level thinking skills, there appears to be little consistency in the delivery of services from classroom to classroom.

In addition to not having consistent methods and materials, a major difficulty encountered in the evaluation of the Horizon program is the lack of identified and approved objectives. In the list of potential objectives suggested in the survey, it was clear that teachers expected that Horizon students would achieve at higher academic levels than regular program students. Beyond that expectation, no clear objectives have been specified.

Despite the lack of objectives, the academic indicators clearly show that the students as a group are achieving well above the District average on the California Achievement Test (CAT). Graphs one through twelve on pages 17 to 39, display a three-year trend of above average performance on the CAT for students by ethnic group membership. The data also show, however, that there is some disparity between the performance of students in the five groups.

Another analysis of student performance on the CAT shows that Horizon students are making significantly greater gains than regular program students at three grade levels in reading and five grade levels in math. It is not surprising that the Horizon students are scoring above the District average on the CAT, but it is surprising that they are making significantly greater gains. One possible explanation is that the District adopted a new version of the CAT this year. The national performance on this test was developed in 1985. The national performance on the previous test was developed in 1977. During that time interval, students began scoring higher on standardized tests. The result is that the standards are higher and students are generally scoring lower than on the previous test. Horizon students taking the older version of the CAT frequently were at the top of the scale, and their gains were difficult to measure with that instrument. Now, however, their scores do not generally hit the "ceiling" of the test, and their gains can be measured. Another explanation is that the Horizon students <u>are</u> making greater gains on the standardized test than regular students. A follow-up study will be conducted with the results of the Spring, 1989, to see if there is a pattern of gains.

In summary, the Horizon program is an accumulation of students who were selected to be tested and admitted to the program as a result of their high performance on the CAT. The program itself seems to have little coheseive form or substance. The curriculum is the same as for the regular program, but the enrichment methods and materials differ from class to class. The one thread of consistency is that Horizon students are scoring higher than regular program students on the CAT. A more interesting phenomenon is that they are showing significantly greater gains than regular program students at most grade levels in reading and math. An in-depth study of the program might result in the identification of some insightful methods and materials that could be used in the regular program.

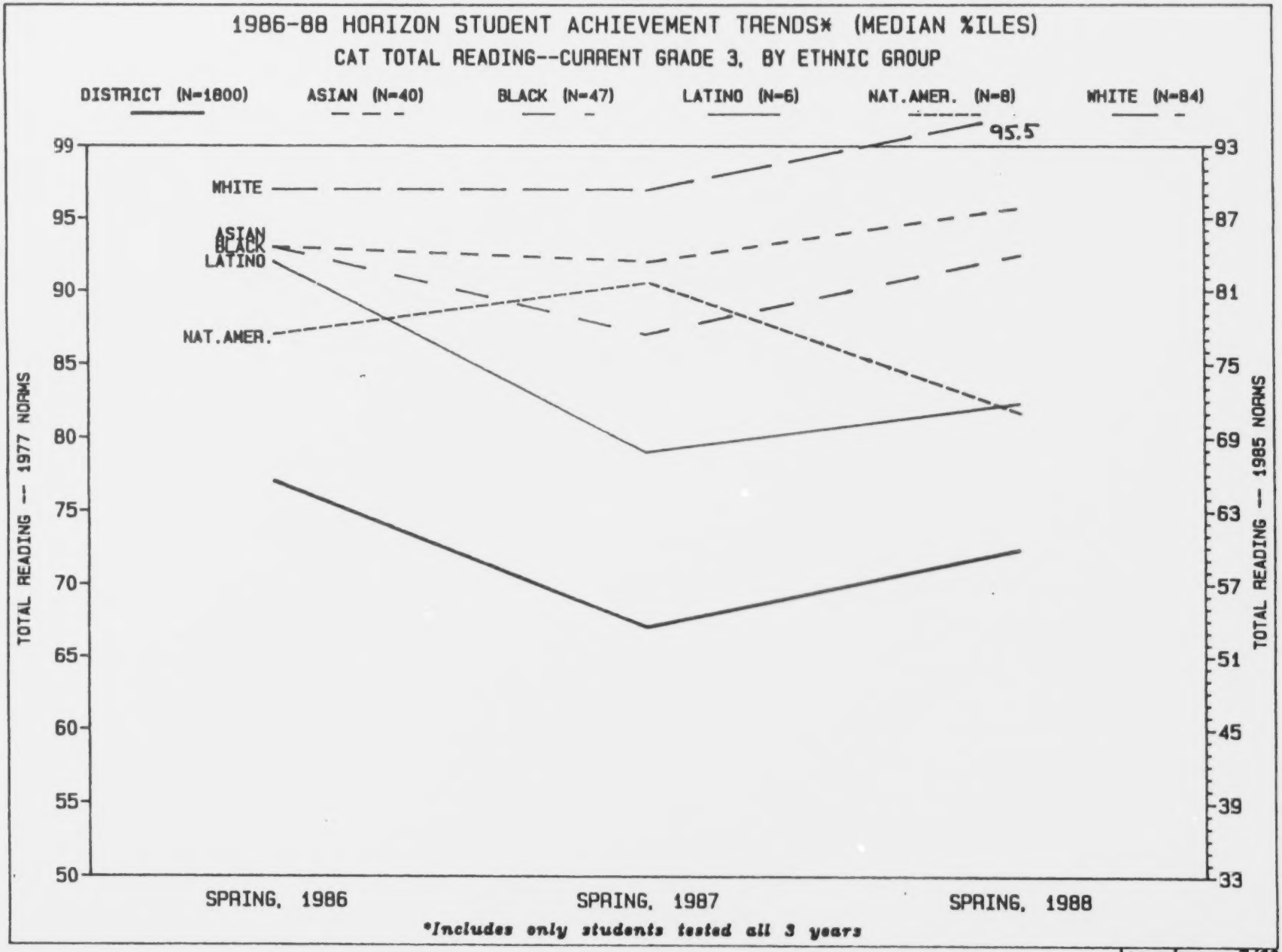
V. REFERENCE

Kenny, David A. (1975). A quasi-experimental approach to assessing treatment effects in the nonequivalent control group design. Psychological Bulletin, 82 (3), 345-362.

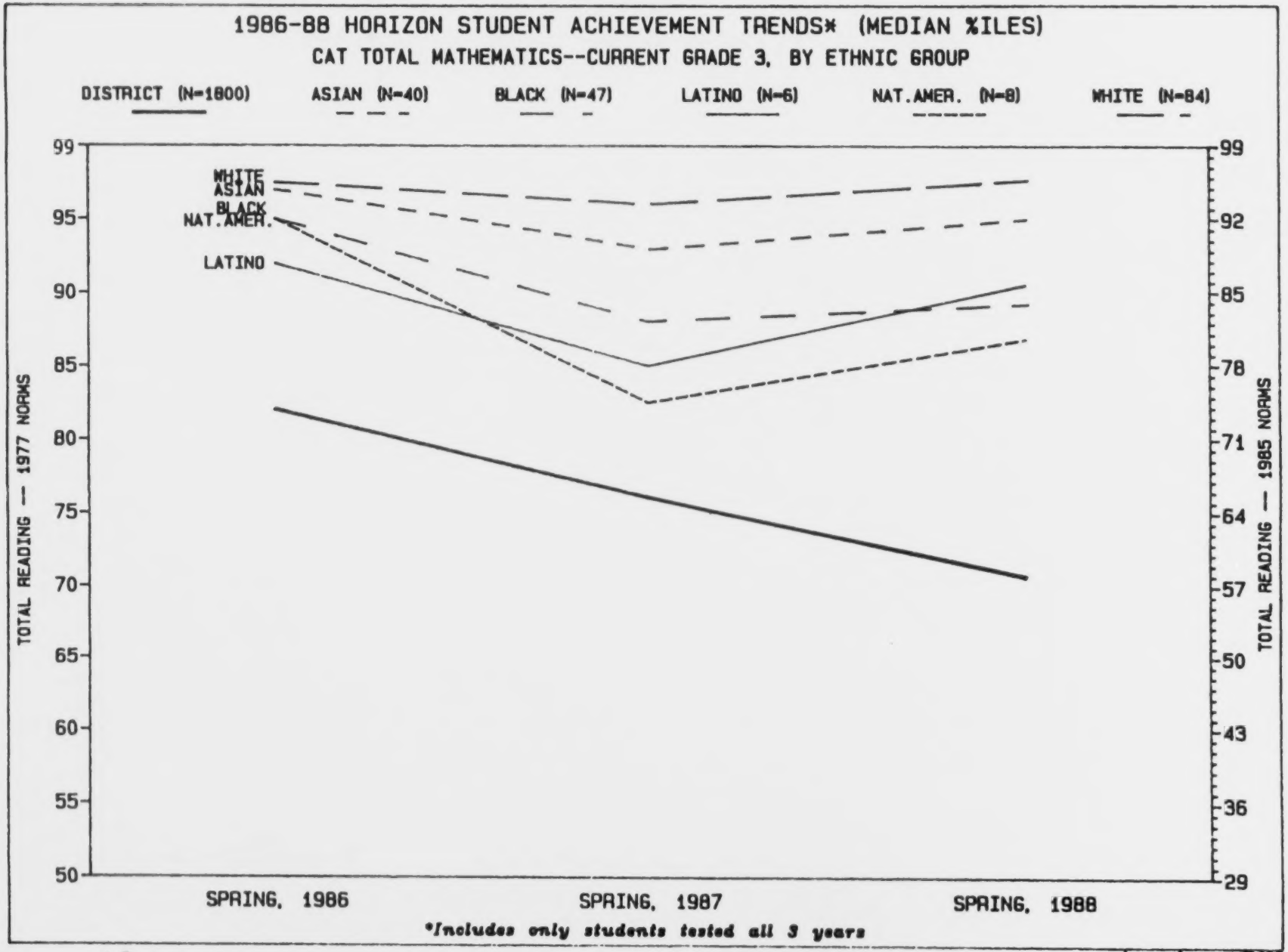
APPENDIX

1

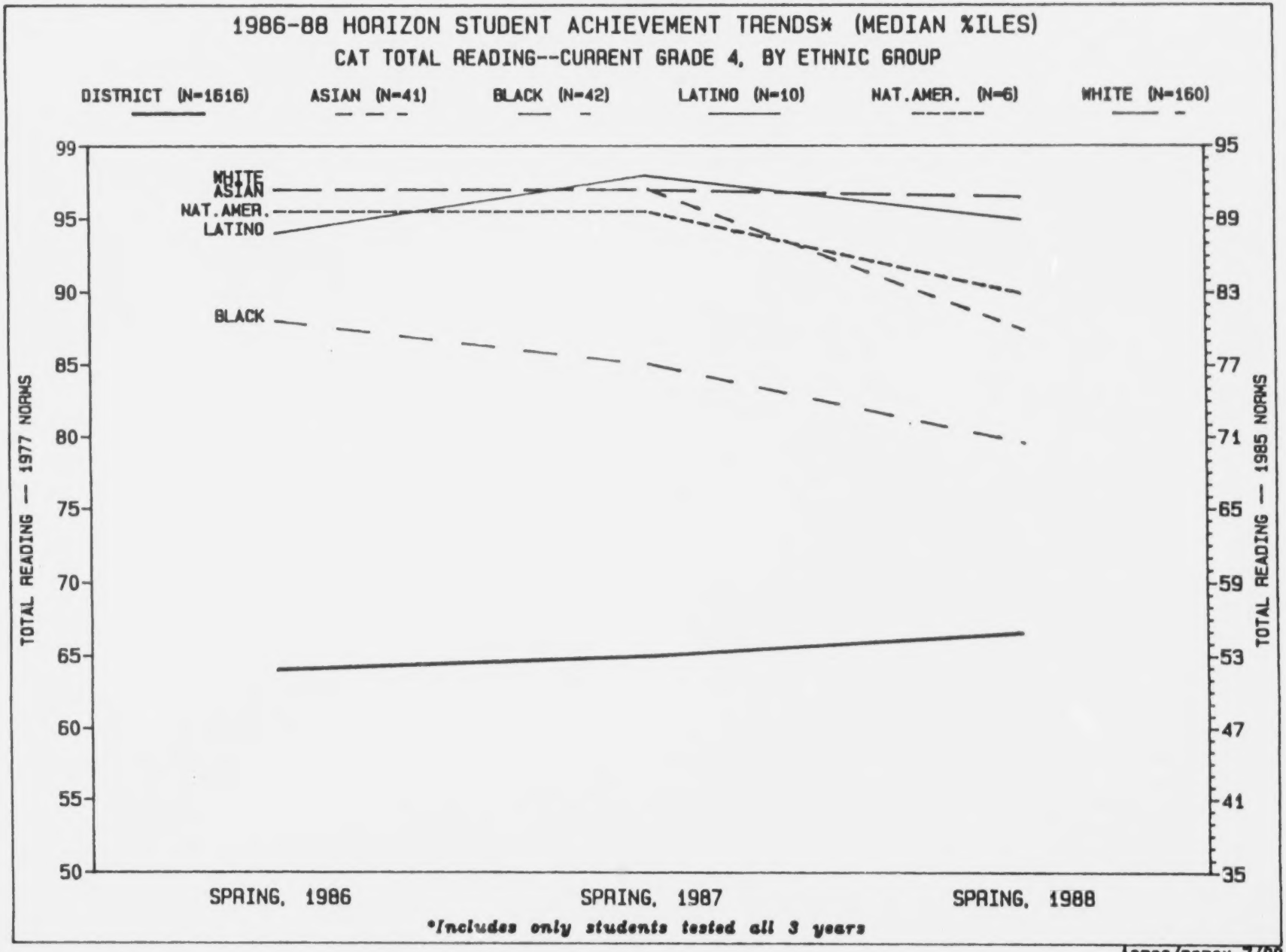
GRAPH 1


1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL READING--CURRENT GRADE 3, BY ETHNIC GROUP
DISTRICT (N=1800)
ASIAN (N=40)
BLACK (N=47)
LATINO (N=6)
NAT.AMER. (N=8)
WHITE (N=84)
95.5
WHITE
ASIAN
BLACK
LATINO
NAT.AMER.
99
95
90
85
80
75
70
65
60
55
50
93
87
81
75
69
63
57
51
45
39
33
TOTAL READING -- 1977 NORMS
TOTAL READING -- 1985 NORMS
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
James/Ramey 7/88

GRAPH 2

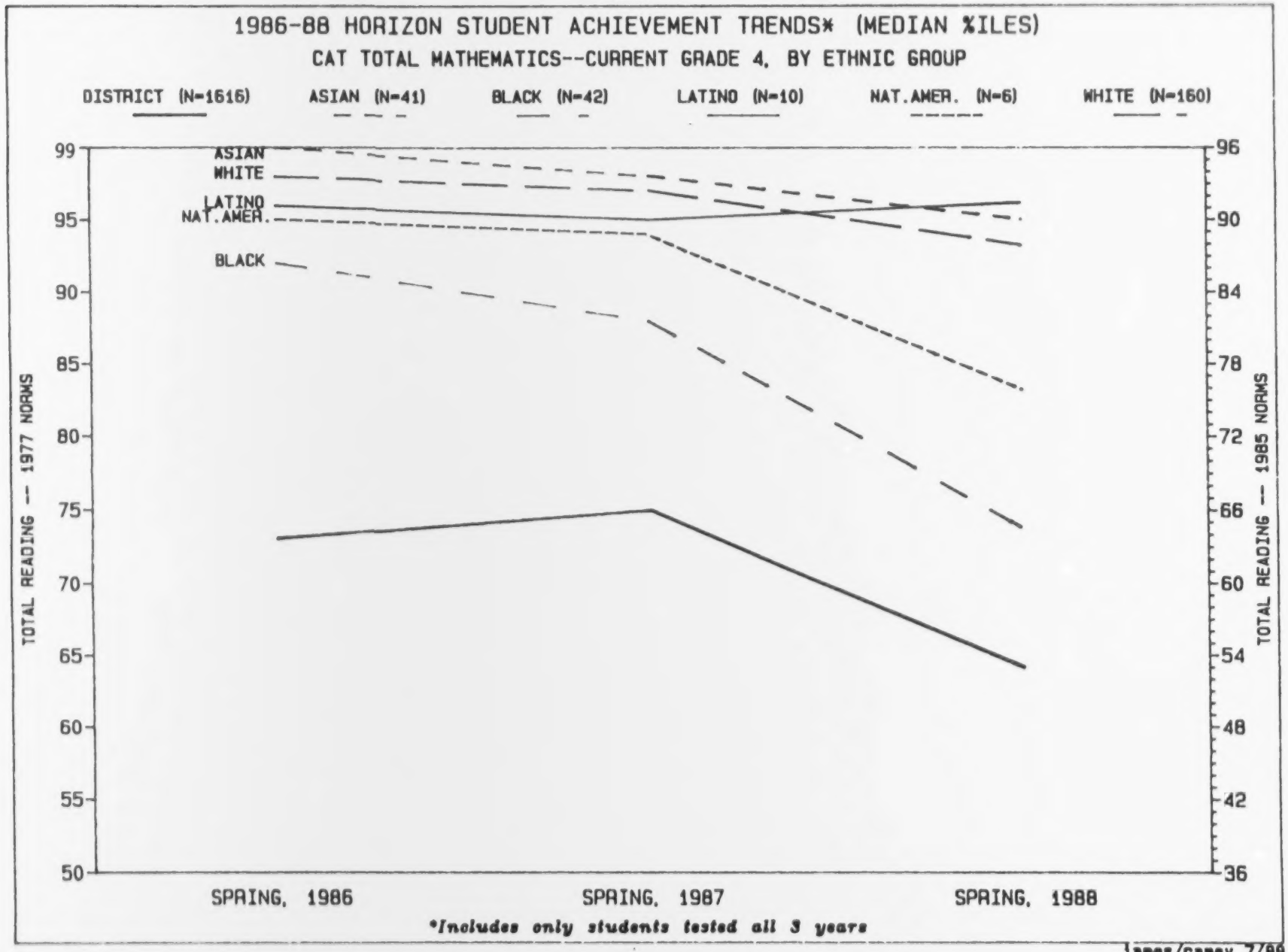

1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL MATHEMATICS--CURRENT GRADE 3, BY ETHNIC GROUP
DISTRICT (N=1800)
ASIAN (N=40)
BLACK (N=47)
LATINO (N=6)
NAT.AMER. (N=8)
WHITE (N=84)
WHITE
ASIAN
BLACK
NAT.AMER.
LATINO
TOTAL READING -- 1977 NORMS
TOTAL READING -- 1985 NORMS
99
95
90
85
80
75
70
65
60
55
50
92
85
78
71
64
57
50
43
36
29
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
James/ramey 7/88

GRAPH 3

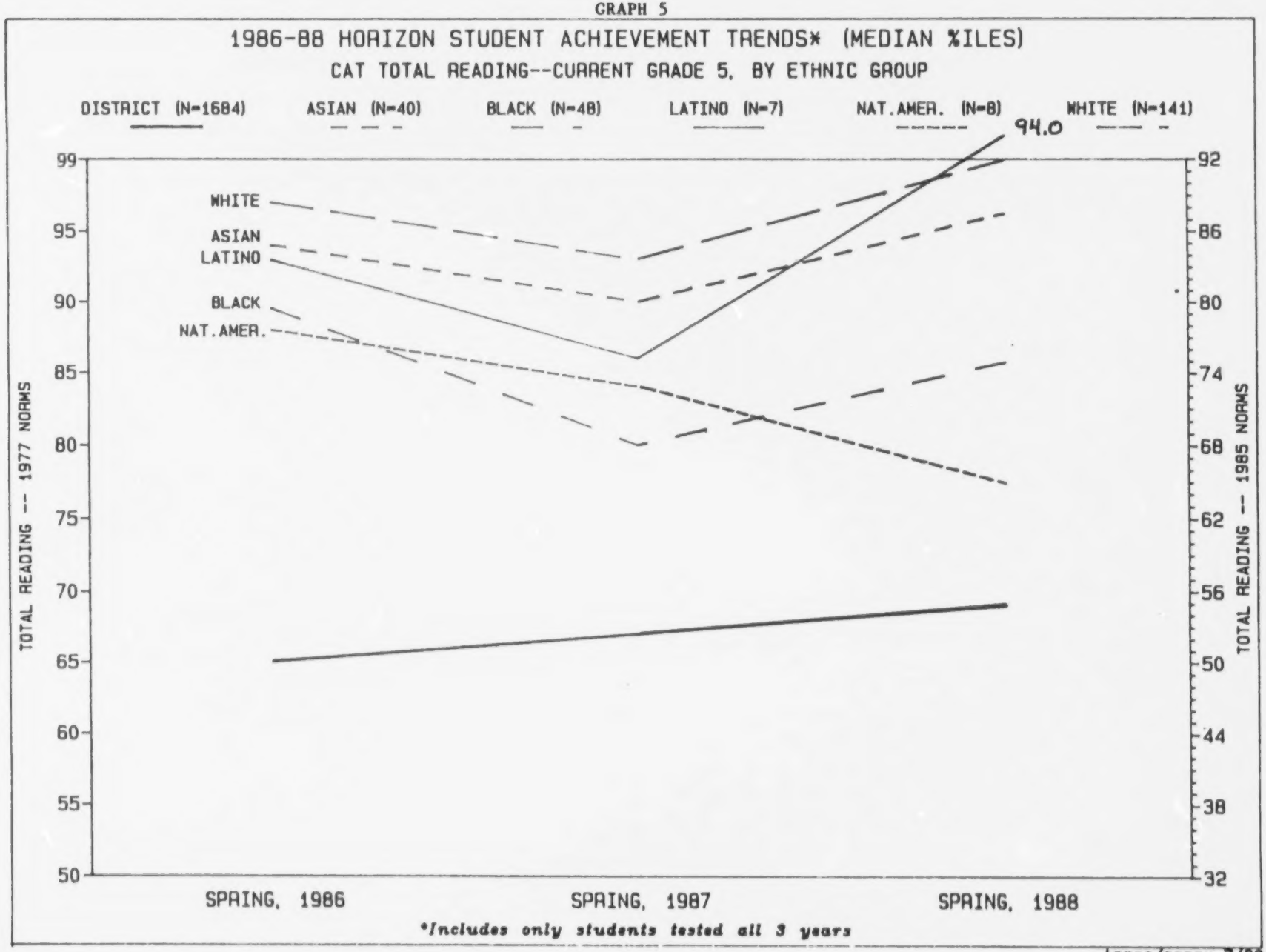


James/Ramey 7/88

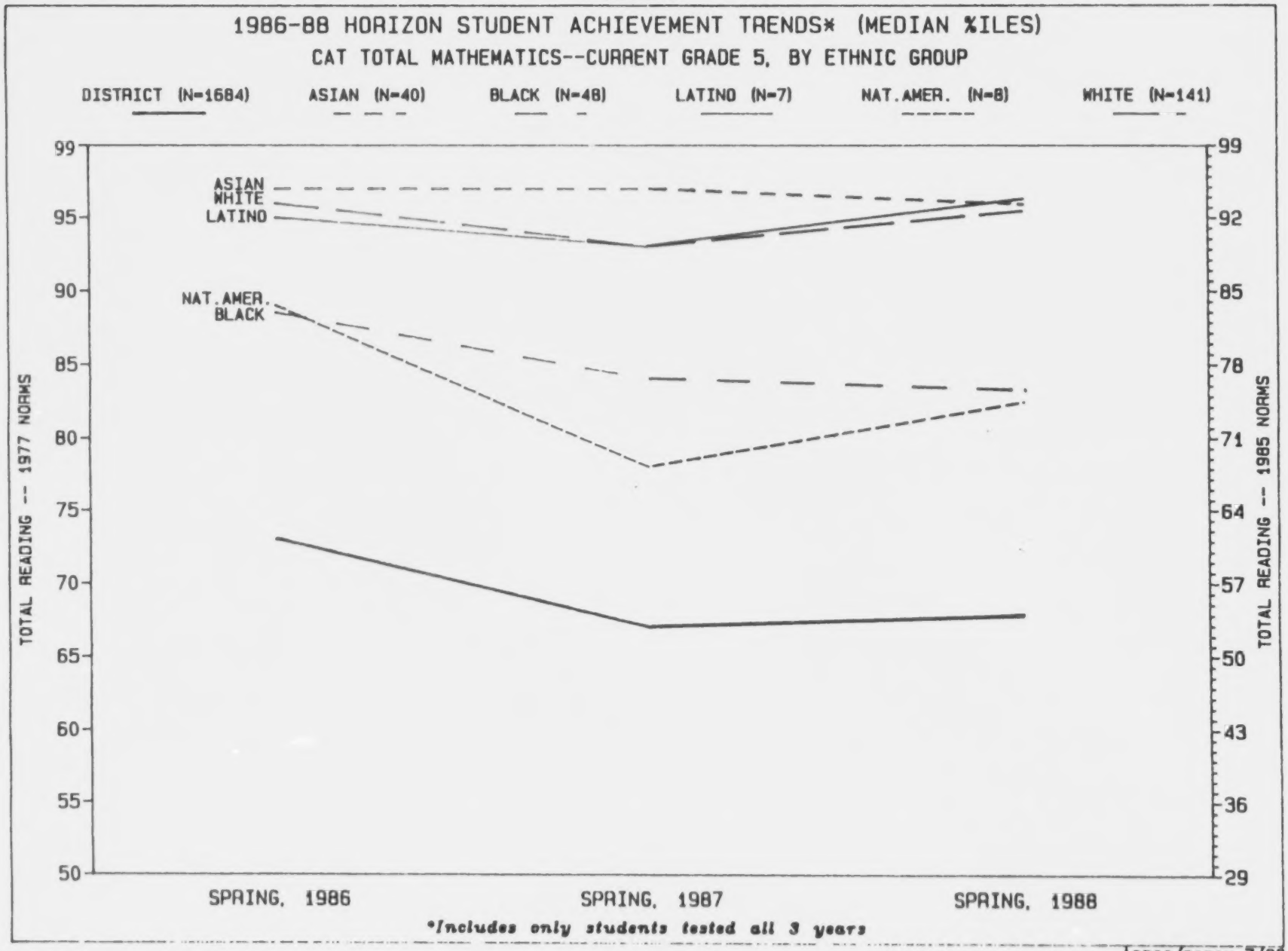
GRAPH 4


1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL MATHEMATICS--CURRENT GRADE 4, BY ETHNIC GROUP
DISTRICT (N=1616)
ASIAN (N=41)
BLACK (N=42)
LATINO (N=10)
NAT.AMER. (N=6)
WHITE (N=160)
ASIAN
WHITE
LATINO
NAT.AMER.
BLACK
TOTAL READING -- 1977 NORMS
99
95
90
85
80
75
70
65
60
55
50
96
90
84
78
72
66
60
54
48
42
36
TOTAL READING -- 1985 NORMS
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
James/Ramey 7/88

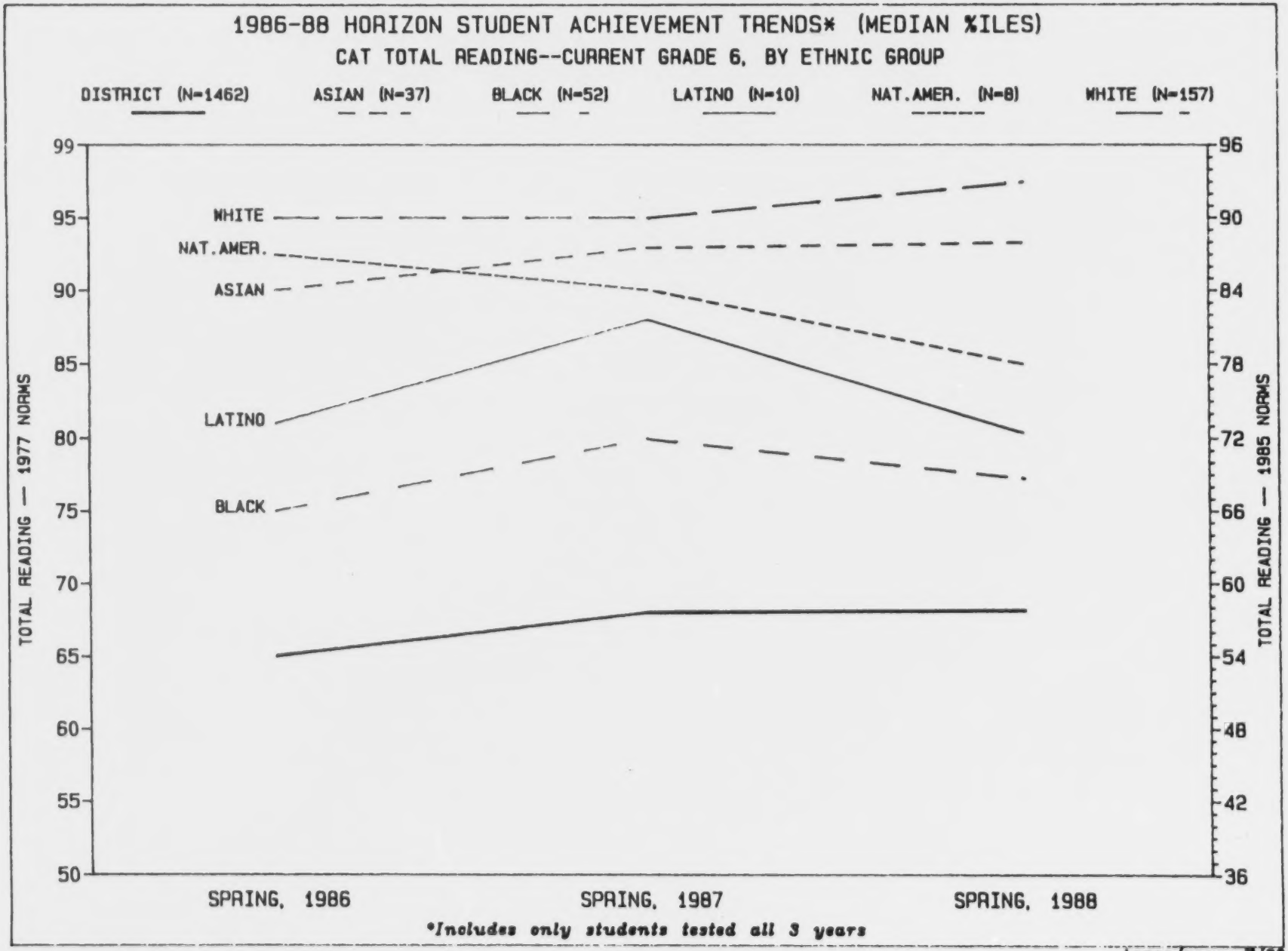
GRAPH 5


1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL READING--CURRENT GRADE 5, BY ETHNIC GROUP
DISTRICT (N=1684)
ASIAN (N=40)
BLACK (N=48)
LATINO (N=7)
NAT.AMER. (N=8)
WHITE (N=141)
94.0
WHITE
ASIAN
LATINO
BLACK
NAT.AMER.
TOTAL READING -- 1977 NORMS
TOTAL READING -- 1985 NORMS
99
95
90
85
80
75
70
65
60
55
50
92
86
80
74
68
62
56
50
44
38
32
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
James/Ramey 7/88

GRAPH 6

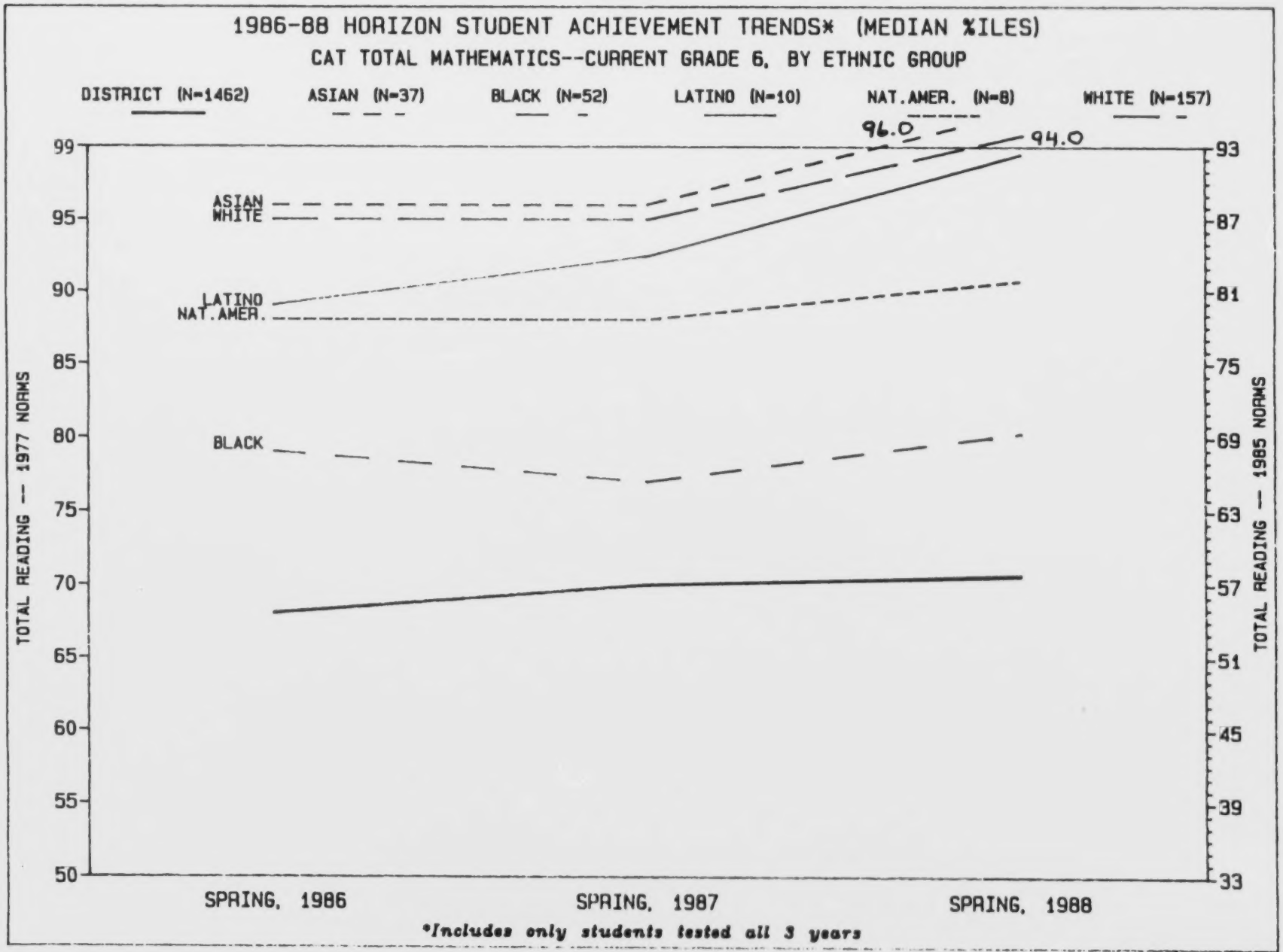

1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL MATHEMATICS--CURRENT GRADE 5, BY ETHNIC GROUP
DISTRICT (N=1684)
ASIAN (N=40)
BLACK (N=48)
LATINO (N=7)
NAT.AMER. (N=8)
WHITE (N=141)
ASIAN
WHITE
LATINO
NAT.AMER.
BLACK
TOTAL READING -- 1977 NORMS
TOTAL READING -- 1985 NORMS
99
95
90
85
80
75
70
65
60
55
50
92
78
71
64
57
50
43
36
29
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
James/Ramey 7/88

GRAPH 7

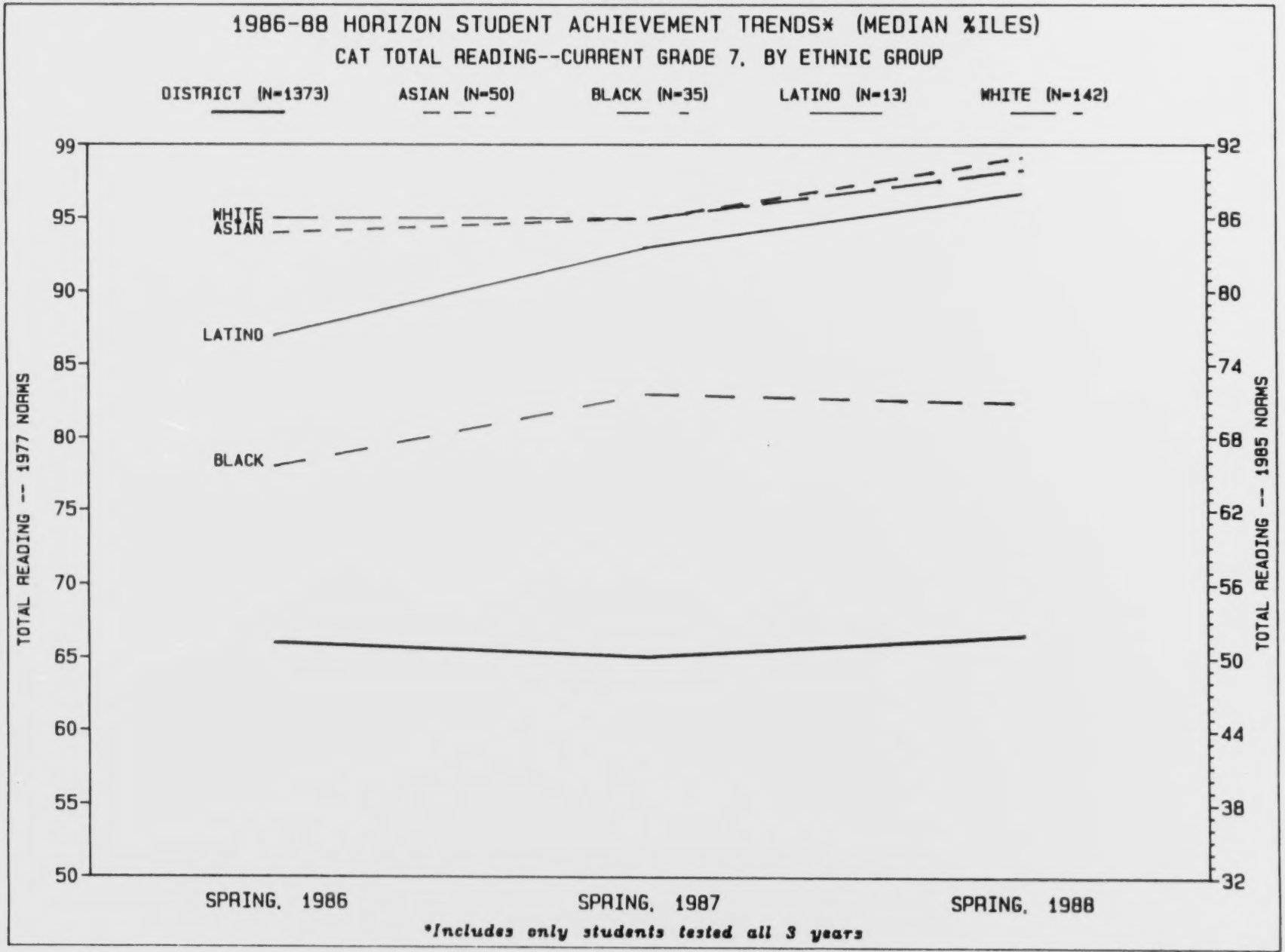


James/Ramey 7/88

GRAPH 8

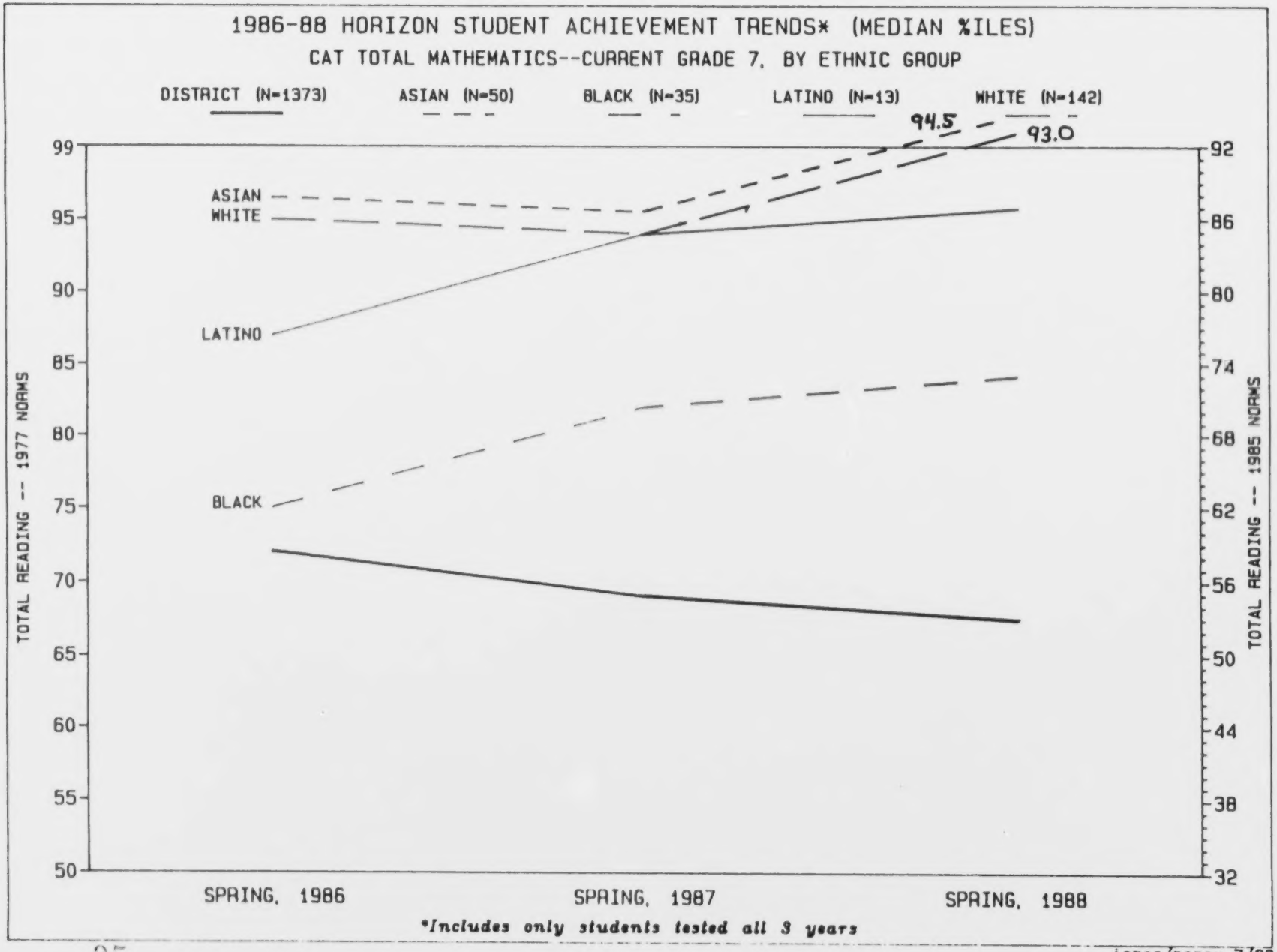

1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL MATHEMATICS--CURRENT GRADE 6, BY ETHNIC GROUP
DISTRICT (N=1462)
ASIAN (N=37)
BLACK (N=52)
LATINO (N=10)
NAT.AMER. (N=8)
WHITE (N=157)
96.0
94.0
ASIAN
WHITE
LATINO
NAT.AMER.
BLACK
TOTAL READING -- 1977 NORMS
TOTAL READING -- 1985 NORMS
99
95
90
85
80
75
70
65
60
55
50
93
87
81
75
69
63
57
51
45
39
33
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
James/Ramey 7/88

GRAPH 9

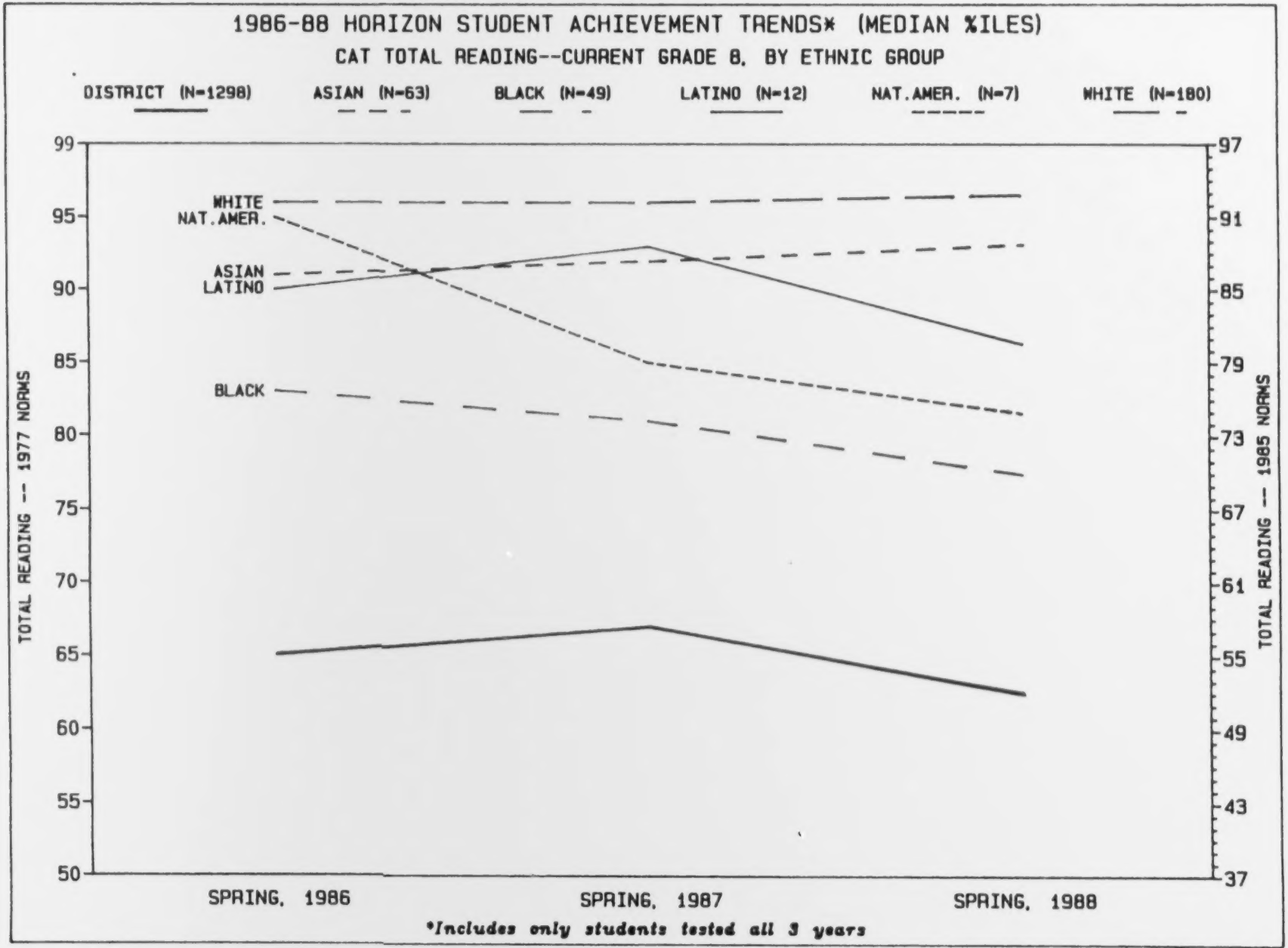


james/ramey 7/88

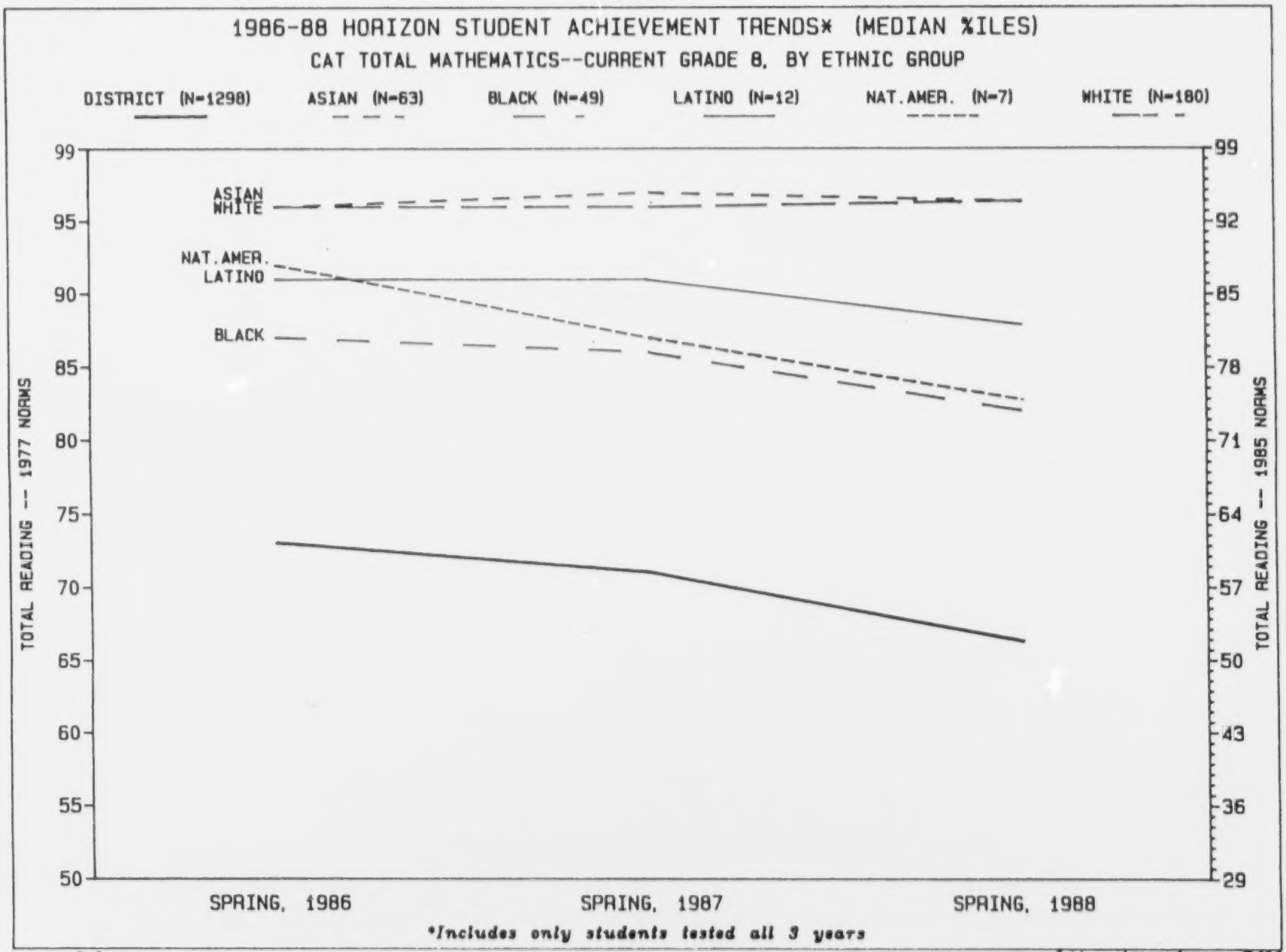
GRAPH 10


1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL MATHEMATICS--CURRENT GRADE 7, BY ETHNIC GROUP
DISTRICT (N=1373)
ASIAN (N=50)
BLACK (N=35)
LATINO (N=13)
WHITE (N=142)
94.5
93.0
ASIAN
WHITE
LATINO
BLACK
99
95
90
85
80
75
70
65
60
55
50
92
86
80
74
68
62
56
50
44
38
32
TOTAL READING -- 1977 NORMS
TOTAL READING -- 1985 NORMS
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
james/ramey 7/88

GRAPH 11


1986-88 HORIZON STUDENT ACHIEVEMENT TRENDS* (MEDIAN %ILES)
CAT TOTAL READING--CURRENT GRADE 8, BY ETHNIC GROUP
DISTRICT (N=1298)
ASIAN (N=63)
BLACK (N=49)
LATINO (N=12)
NAT.AMER. (N=7)
WHITE (N=180)
WHITE
NAT.AMER.
ASIAN
LATINO
BLACK
99
95
90
85
80
75
70
65
60
55
50
97
91
85
79
73
67
61
55
49
43
37
TOTAL READING -- 1977 NORMS
TOTAL READING -- 1985 NORMS
SPRING, 1986
SPRING, 1987
SPRING, 1988
*Includes only students tested all 3 years
James/Raney 7/88

GRAPH 12



James/raney 7/88

APPENDIX

2

TABLE 1

PERCENTILE SCORES AND OUTCOMES OF
STATISTICAL TESTS FOR COMPARING 1987-88
CAT GAINS OF HORIZON AND NONPROGRAM STUDENTS

		Reading			Math		
Grade	Program	Significant	Spring 1987 Percentile	Spring 1988 Percentile	Significant	Spring 1987 Percentile	Spring 1988 Percentile
2	Horizon	Yes	91*	91	Yes	96	92
	Nonprogram		61	55		66	56
3	Horizon	Yes	85	90	Yes	92	93
	Nonprogram		50	55		55	51
4	Horizon		94	88		93	86
	Nonprogram		47	50		66	57
5	Horizon	Yes	83	88	Yes	88	89
	Nonprogram		46	51		50	50
6	Horizon		88	90	Yes	87	91
	Nonprogram		50	52		53	52
7	Horizon		88	89	Yes	88	91
	Nonprogram		48	49		50	51
8	Horizon		93	91		93	93
	Nonprogram		54	48		53	48

* Percentile rank corresponding to median NCE score.

APPENDIX

3

HORIZON TEACHER SURVEY

(cc-1) 1. Level Taught (Please check one):

_____(1) Elementary
_____(2) Middle
_____(3) High

(cc-2) 2. Please specify your teaching or specialization area (Please check one):

_____(1) Language Arts
_____(2) Math
_____(3) Social Studies
_____(4) Foreign Language
_____(5) Science
_____(6) Music
_____(7) Arts
_____(8) General Elementary
_____(9) Other - Please specify _____

(cc-3) 3. How many hours a day do you teach in the Horizon Program? (Please check one.)

_____1 hour _____2 hours _____3 hours

_____4 hours _____5 hours _____6 hours

4. Please circle the number which represents your opinion in each of the following questions:

1=Strongly Agree 2=Generally Agree 3=Undecided or Neutral

4=Generally Disagree 5=Strongly Disagree

(cc-4) A. I find the Horizon Curriculum Guide useful in determining ways to meet the special needs of gifted students. 1 2 3 4 5

(cc-5) B. I have adequate materials and equipment to teach as I want to teach. 1 2 3 4 5

(cc-6) C. I feel I am well trained for teaching a gifted class/classes. 1 2 3 4 5

D. My class/classes are developing creative thinking-feeling processes in the following areas:

(cc-15)	(a) Fluency:	able to produce many ideas	1	2	3	4	5
(cc-16)	(b) Flexibility:	able to switch categories, change focus	1	2	3	4	5
(cc-17)	(c) Originality:	uses novel methods to solve problems and uses old ideas in a new way	1	2	3	4	5
(cc-18)	(d) Elaboration:	works ideas out in detail	1	2	3	4	5
(cc-19)	(e) Complexity:	challenged by complicated problems	1	2	3	4	5
(cc-20)	(f) Risk-Taking:	courage to take a chance	1	2	3	4	5
(cc-21)	(g) Curiosity:	inquisitive, willing to explore	1	2	3	4	5
(cc-22)	(h) Imagination:	power to form mental images which have not been experienced	1	2	3	4	5

Comments:

E. My class/classes are engaged in activities (small group work, projects, student activities, etc.) directed toward developing:

(cc-23)	(a) responsibility		1	2	3	4	5
(cc-24)	(b) leadership skills		1	2	3	4	5

Comments:

(cc-25)	F. My class/classes are engaged in activities directed toward developing knowledge of the psychological processes involved in creative problem solving and decision making.		1	2	3	4	5

Comments:

5. Please circle the number which represents your opinion in each of the following questions:

1=To a great extent 2=Somewhat 3=Very little 4=Not at all

5=Does not apply to my association with this class

(cc-7) A. My class/classes were exposed to people in selected areas of the business, professional and cultural world through one or more field trips and/or in bringing in outside speakers. 1 2 3 4 5

Comments:

B. My class/classes were involved in a variety of experiences (projects, reports, group work) which seemed to increase their:

(cc-8) (a) intellectual curiosity 1 2 3 4 5

(cc-9) (b) aesthetic awareness 1 2 3 4 5

Comments:

C. My class/classes are developing basic technical skills required for:

(cc-10) (a) gaining information 1 2 3 4 5

(cc-11) (b) doing independent research 1 2 3 4 5

(cc-12) (c) using the inquiry approach to learning 1 2 3 4 5

(cc-13) (d) preparing special reports 1 2 3 4 5

(cc-14) (e) improving speech patterns and communication skills 1 2 3 4 5

Comments:

6. Is your teaching strategy different in the Horizon class than it would be with a regular class?

(cc 26) _____Yes _____No Please specify: _____

_____

7. Please list examples of academic activities that occur in your Horizon class that would not occur in a regular class.

_____

_____

_____

(cc 27-31) 8. What type(s) of training for teaching gifted students have you had? (Please check one or more of the following):

_____A. College - undergraduate

_____B. College - graduate

_____C. Inservice training/workshops

_____D. Classroom experience

_____E. Other - Please specify: _____

9. Do you feel you need additional training to promote student growth in any of the following areas:

(cc-32) _____Yes _____No A. Intellectual

(cc-33) _____Yes _____No B. Academic

(cc-34) _____Yes _____No C. Creativity

(cc-35) _____Yes _____No D. Leadership

10. How many students in your class this year were tested and qualified for Chapter 1 services?

(cc 36-37) Reading _____

(cc 38-39) Math _____

11. What approximate percentage of students are functioning above, at, or below grade level in the following areas:

(cc 40-45)	Math	_____Above	_____At	_____Below
(cc 46-51)	Reading	_____Above	_____At	_____Below
(cc 52-57)	Language Arts	_____Above	_____At	_____Below
(cc 58-63)	Other - Please specify: _____	_____Above	_____At	_____Below

_____

(cc-64) 12. Are you familiar with the deselection process? _____Yes _____No

(cc-65) 13. If yes, are you satisfied with the deselection process? _____Yes _____No

(cc 66-67) 14. How many students have been deselected from your Horizon class this year? _____

15. This portion of the questionnaire is designed to obtain your opinion concerning the possible objectives of the Horizon program. Please read each statement and record your response to the objective statement:

1=Strongly Agree 2=Agree 3=No Clear Feeling
4=Disagree 5=Strongly Disagree

(cc-68)	A. The CAT reading and math gains for Horizon students will be significantly greater then the gains for the rest of the students in the District.	1	2	3	4	5
(cc-69)	B. The CAT identifies certain items in the test that constitute higher level thinking skills. Horizon students will score in the high band of the higher level thinking skills in significantly greater numbers than students in the regular program.	1	2	3	4	5
(cc-70)	C. Elementary Horizon students will master SLOs in significantly greater numbers than will the rest of the students in the District.	1	2	3	4	5
(cc-71)	D. Supplementary curriculum materials for at least 80% of the Horizon classrooms will be above grade level by a minimum of one year.	1	2	3	4	5

(cc-72) E. As measured by a student questionnaire, 80% or more of the Horizon students will be satisfied with their basic skill attainment as a result of program involvement. 1 2 3 4 5

Please add relevant measurable objectives either below or on a separate sheet.

Thank you for your responses.

/bs
HPE1:hts1.1-1.6

APPENDIX

4

PRELIMINARY REPORT COMMENTS

Several Horizon teachers agreed to review the preliminary draft of this report. The reviewers were also asked to comment on three areas in which the writers wanted more information. Those three areas are teacher expectations, teaching strategies, and measurable objectives for the Horizon program.

Although only four teachers responded with any detail to the report, their comments are illuminating. General comments and suggestions on the content of the report were incorporated in the report where appropriate. Specific responses to the areas in which more information was requested is included below.

Expectations:

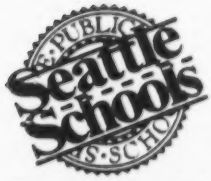
a. daily homework;
b. assignments completed on time;
c. two years above grade level in reading as measured by Gates scores;
d. follow directions for task completion;
e. responsible for own learning;
f. synthesize knowledge from other disciplines and life experiences;
g. parent awareness of student requirements.

Teaching Strategies:

a. attempt to meet higher level thinking skills from a variety of materials including textual materials;
b. make learning interesting and involving;
c. interdisciplinary studies;
d. simulations/role playing activities;
e. writing skill development to include monthly school newspapers;
f. debate;
g. report delivery and defense;
h. long-range research;
i. higher cognitive level essays.

Measurable Objectives:

a. number of Horizon students who qualify for IPP placement;
b. academic and personal growth;
c. interest and excitement about learning;
d. global awareness;
e. increased problem solving;
f. parental involvement;
g. increased creativity in newspaper production - cartoons, sales, writing, and printing.



The Seattle Public Schools

BOARD OF DIRECTORS

T.J. Vassar, President
Elizabeth Wales, Vice President
Kenneth Eastlack
Michael Preston
Ellen Roe
Connie Sidles
Marilyn S. Smith

SUPERINTENDENT

William M. Kendrick